



# **Department of Navy Kaizen Event Overage Specifications & Standards**

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# Navy Caucus Refresher

## (From 2006 Standardization Conference)

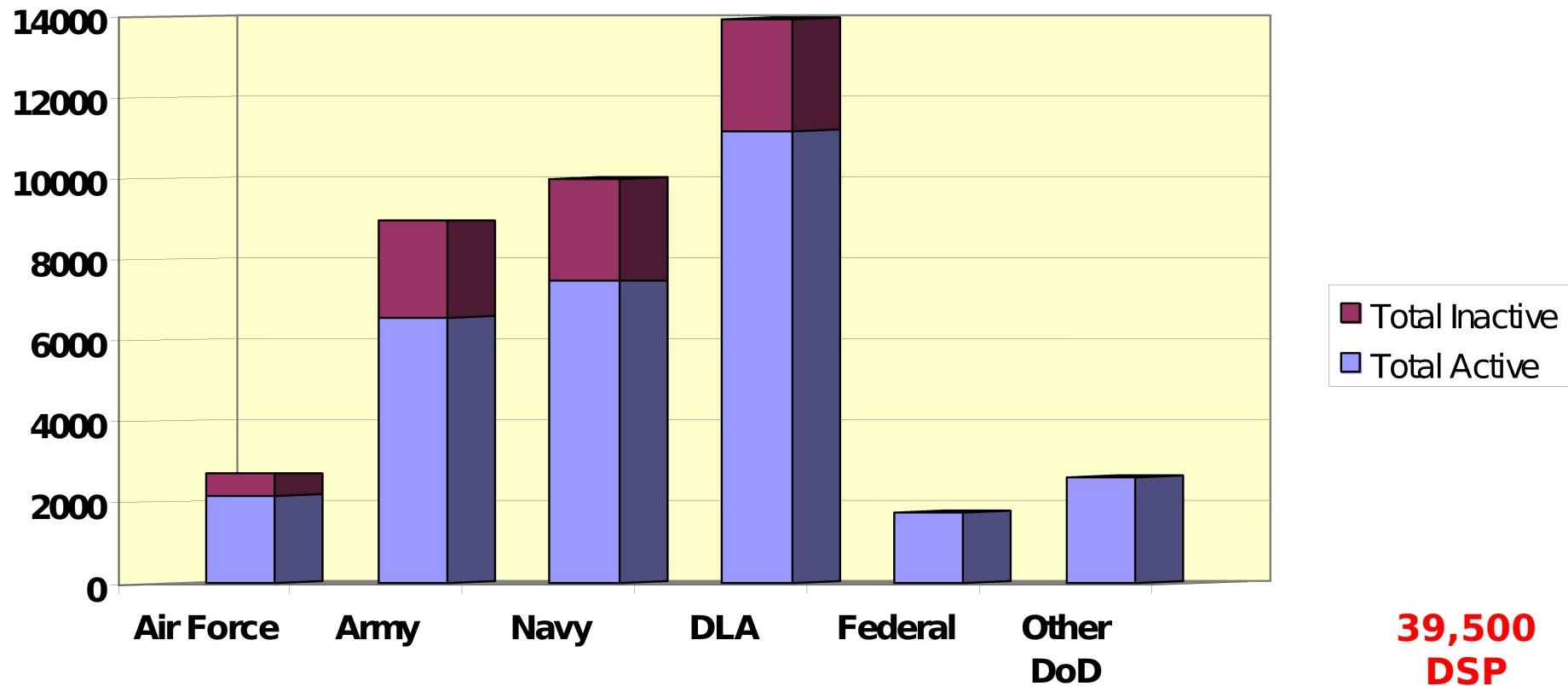
### ENVIRONMENT

- Limited Resources For Managing DSP Documents
  - *Navy Standardization Budgets Less than 50% of 1996*
  - *Resource Increases Not Anticipated*
    - Competition for Resources --- Emphasis on Defense Programs
- Significant Workload
  - ~ 10,000 Dept of Navy Prepared DSP Documents
    - Plus “Review” Interest in ~ 4,400 Documents Managed by Other
  - *DoD Priorities Undefined ... Services/SYSCOMs Establish Own*
    - NAVAIR ... Safety > Readiness > Performance > Other
    - NAVSEA ... Quantitative Scorecard By “Technical Authority”
- Perception ... DSP Procedures Need Re-Examination
  - *Non-Value Added/Marginal Procedures Need To Be Streamlined*
  - *Few “Meaningful” DSP Metrics*
    - Cost, Use/Value/Importance to User, Quality/Problems, etc



# “Spec Ownership” Responsibilities

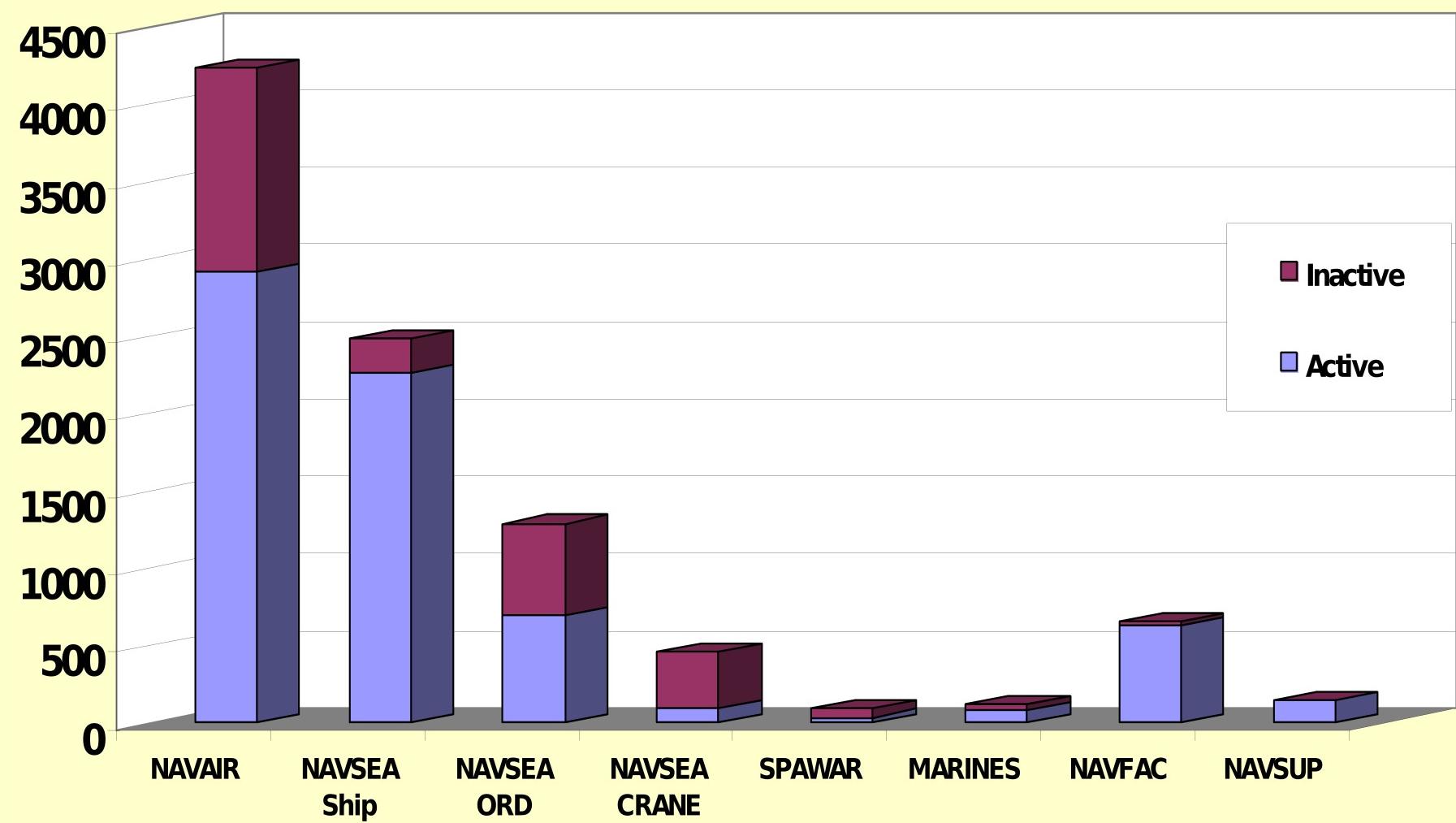
## Preparing/Accepting Activity Responsibility





# Specifications & Standards

## Preparing/Accepting Responsibilities





# 2006 Standardization Conference

## Department of Navy Caucus Proposal

- **1 or 2 Navy-Led Lean Six Sigma (LSS) Projects**
  - **Navy Standardization Executive (DASN(L)) to Champion**
  - **Process/Issue Selection by Dept of Navy**
    - “Int’l Stdzn Agreements” (DASN(L) Offer)
    - “Overage Document Review” (Navy Caucus Offer)
    - DSPO To Be Invited (Voice of the Customer)
  - **Black-Belt Managed**
  - **Current Procedures Not Sacrosanct**
    - Candidates For Evaluation/Modification/Elimination
    - Pilot Implementation With Waivers to Procedures (if necessary)
  - **DSC Evaluation Within 12-16 months For Broader Implementation**
  - **Status Briefing at 2007 DSP Conference**
- **Deliverables:**
  - **Candidate DSP Priorities or Prioritization Approach**
  - **Proposed Procedural Changes**
  - **Proposed Meaningful Metrics**



# Overage Document Review Requirement Background

- DoD 4120.24-M, Chapter 5.9 Requires Validation, Revision, or Cancellation of DSP Documents At Least Every 5 Years
  - Ensure Specs & Standards Are Needed, Current & Correct
  - Broadly Applied (e.g., Applies to Dynamic vs. Stable Technologies)
- Impact on Dept of Navy
  - Resources Inadequate To Comply With Requirement
    - ~34% of Dept. of Navy Documents are “Overage”
    - Backlog Will Grow Annually ... Resources Likely Won’t
- Is “Calendar-Based” Approach Best Way To Achieve Objective?
  - 5-Year Requirement Appears Arbitrary
  - Alternatives (e.g., Risk-Based, User Feedback, etc) Worth Exploring
  - Need to Understand Primary Drivers of “Overage” and Impact to Fleet



# Navy “Overage Document” Kaizen Event

- **Kaizen --- Lean- Six Sigma (LSS) Technique For “Quick Hits”**
  - *Short-Term, Intense LSS Approach*
- **Scope: Limited to NAVAIR & NAVSEA Managed DSP Documents**
- **Objectives: Reduce Backlog & Streamline Process**
  - *Document Quality At Least As Good As Current Requirements*
- **Participants: NAVAIR, NAVSEA, DSPO**
  - *NAVAIR & NAVSEA ~ 85% of DoN Documents*
  - *Facilitated By Master Black Belt, Black Belt, & Green Belt*
- **Timeline: 9-11 Jan 07**
  - *Preparatory Research & Work Nov/Dec 06*
  - *Follow-Up During 07*
- **Tools Applied: Typical LSS (Examples on Subsequent Slides)**
  - *SIPOC, Voice of Customer, Value Stream Mapping, Idea Affinity and Benefits vs. Effort Charting, etc*



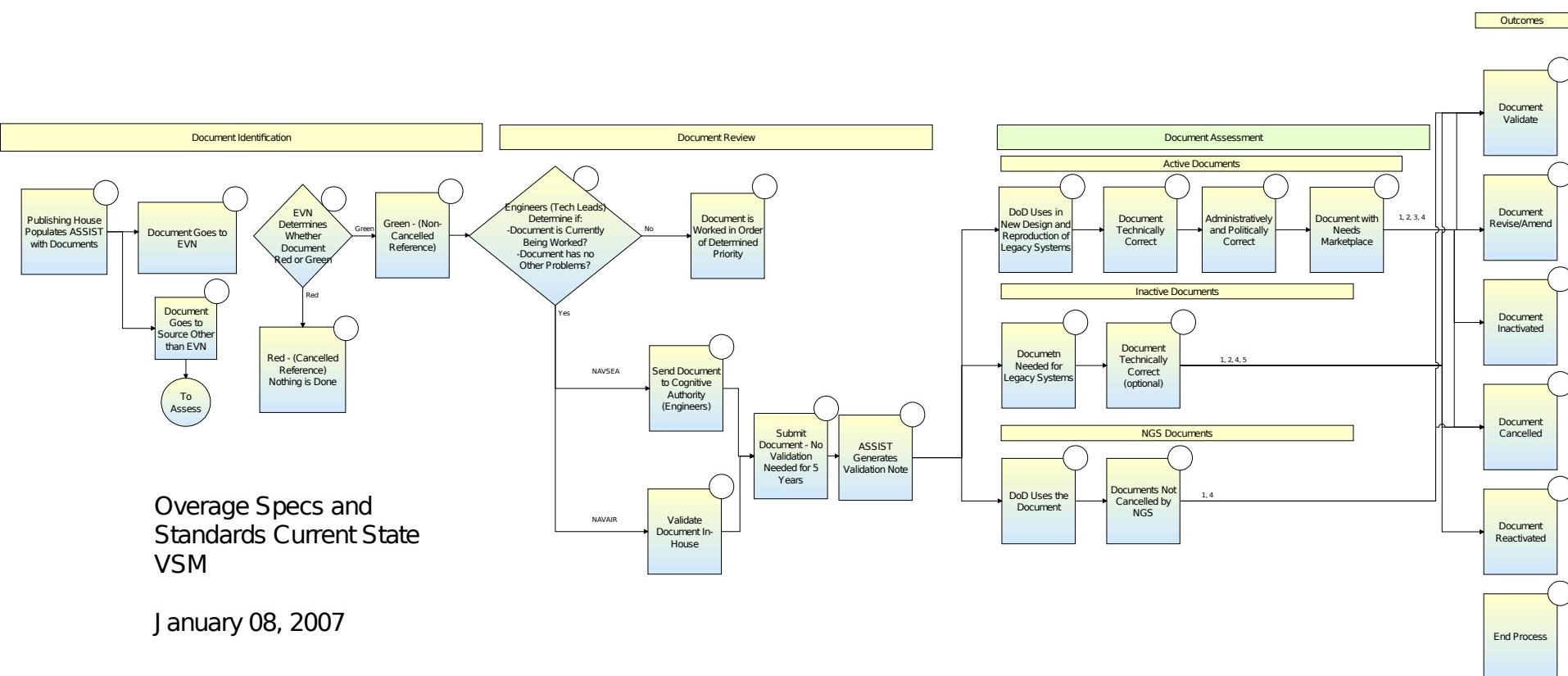
# SIPOC - Improve the NAVAIR and NAVSEA specification and standards process for assuring the documents remain technically correct, current, and complete over time.

Suppliers	Inputs	Process	Outputs	Customer
<ul style="list-style-type: none"> <li>◆ DoD engineers and logisticians (program offices, competencies, T&amp;E, etc)</li> <li>◆ Contractor engineers</li> <li>◆ Nongovernment Standards Organizations (e.g., SAE, ASTM, etc)</li> <li>◆ OSD and Navy Policy Offices</li> </ul>	<ul style="list-style-type: none"> <li>◆ Technical requirements from program offices, supply support offices, technical specialists, industry</li> <li>◆ Feedback from contractors, DCMA, others</li> <li>◆ DoD 4120.24-M procedures (Chapter C5.9)</li> <li>◆ Listing of "overage documents" (FVN)</li> </ul>	<ul style="list-style-type: none"> <li>◆ <b>Step 1</b> ID, obtain, &amp; review documents that have not been published/validated w/i past 5 years</li> <li>◆ <b>Step 2</b> Assess: <ul style="list-style-type: none"> <li>◆ Current need by DoD</li> <li>◆ Adequacy of tech req'ts</li> <li>◆ Problem reports</li> <li>◆ Compliance w/current policies, laws, regs</li> <li>◆ Consistency with current commercial practice</li> </ul> </li> <li>◆ <b>Step 3</b> Determine one of the following outcomes: <ul style="list-style-type: none"> <li>◆ Validate</li> <li>◆ Revise/Amend</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◆ DON managed Specifications and Standards that are needed, current, correct, and complete: <ul style="list-style-type: none"> <li>◆ Usable for design, test, acquisition, &amp; support.</li> <li>◆ Public Law Compliance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◆ Customers: <ul style="list-style-type: none"> <li>◆ Government contracting Officers, contract managers, maintainers, engineers, QA, logisticians, testers, lawyers</li> <li>◆ Industry (same specialties as above)</li> </ul> </li> <li>◆ Stakeholders: <ul style="list-style-type: none"> <li>◆ OSD &amp; Service "RDT&amp;E"</li> <li>◆ SYSCOMs, PEOs, DLA, &amp; DCMA</li> </ul> </li> </ul>

VO Customer	X=Input Metrics	X=Process Metrics	Y=Output Metrics	Quality
<ul style="list-style-type: none"> <li>• 34% of the Navy owned Specs and Stds are overage and there are not enough resources to review and validate them. (OSD)</li> <li>• Cannot easily determine which specs and stds need tech change (Engineers)</li> <li>• Further VOC TBD after Kaizen. (Users)</li> <li>• Current and Accurate (Users)</li> </ul>	<ul style="list-style-type: none"> <li>• Feedback <ul style="list-style-type: none"> <li>• Spec needs</li> <li>• Contracts needs</li> </ul> </li> <li>• Education/Communication</li> <li>• Human Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Technical Content Deficiency Identification</li> </ul>	<ul style="list-style-type: none"> <li>• Technical Content (Sec3)</li> <li>• Verification and QA (Sec4)</li> </ul>	<b>Quality</b>
	<ul style="list-style-type: none"> <li>• Feedback</li> <li>• Prioritization</li> <li>• Trigger to start</li> <li>• Resources (Human and \$)</li> </ul>	<ul style="list-style-type: none"> <li>• Cancelled References</li> <li>• Policy - administrative, NGS validation</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced backlog within reasonable timeframe</li> <li>• Manageable workload within available resources</li> </ul>	<b>Speed</b>
	<ul style="list-style-type: none"> <li>• Current budgets or minimal change</li> <li>• Policy</li> <li>• Technology</li> </ul>	<ul style="list-style-type: none"> <li>• NVA and BNVA tasks and process steps</li> <li>• Cancelled References</li> </ul>	<p>Same/Lower overall standardization budget cost of doing business</p>	<b>Cost</b>

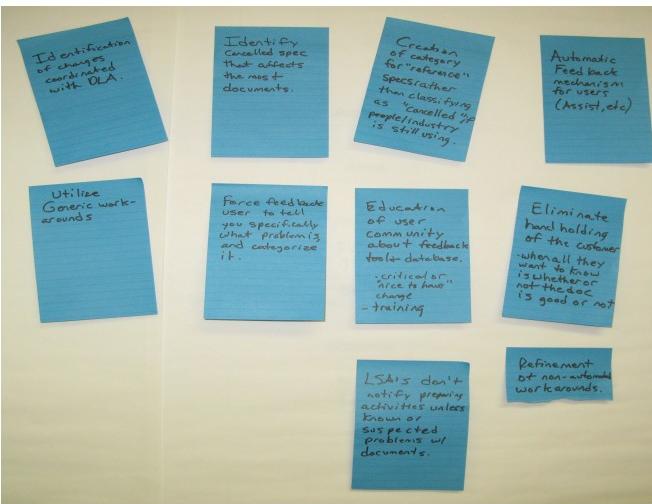


# Current State Map





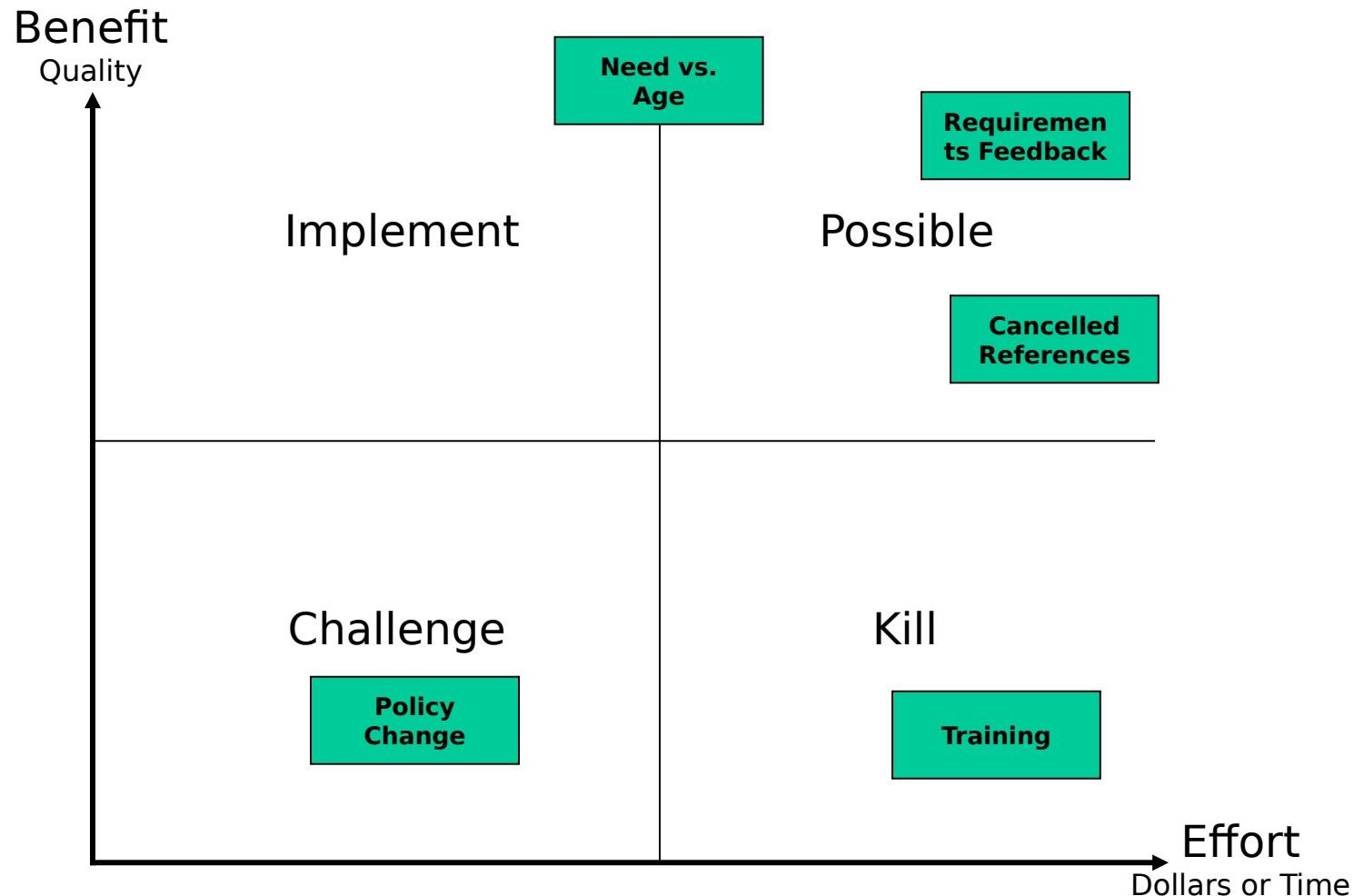
# Improvement Ideas - Affinity

Policy Change	Cancelled References	Need vs. Age	Other	Training	Requirements Feedback
Eliminate 5 yr validation requirement	Consider Reinstitution of cancelled references	Validate based on need not age	Continue the course unless know the problems are identified	Educate: value of validation exercise	Designation of product/Technology as fundamentally stable vs. dynamic
Eliminate requirement for validation of NGS	Strategy to "revisit" address cancelled document issues	Conditioned based document review vice calendar based		Mandate DoD-wide DSP Training	Use Assist Alert to seek user feedback
Change policy to allow commands to set priority on which doc's to work	Reinstate often cited cancelled referenced w/streamlined procedures	Problem/Risk based approach (Mgmt by exception vs. everything)			Web based document feedback
Extend age from 5yrs to more	Do not include docs w/o cancelled refs as "overage"				Create contracts organization spec feedback automation module
	Allow cancelled references				Tool to obtain DoD procurement by document
					Provide tools to assess tech problems - feedback module
					Make users aware of technical deficiencies
					Visibility of documents used in PM's spec/SOW

Additional Ideas Developed Over Course of Meeting



# Improvement Ideas - Benefit vs. Effort





# Overage Documents

## Kaizen Event Summary

- 3 Improvement Areas Clearly Stood Out
  - ➡ **DSP Policy Should Be “Need-Based” vs. “Calendar- Based”**
    - Military & Commercial Equipment Maintenance Strategies Focus on Prognostics & Condition Based Maintenance (CBM)
      - Maintenance decisions based on actual equipment condition vs. time or usage intervals
  - **Cancelled References Are The Greatest Driver Precluding Validation of “Overage” Documents**
    - Technical Content of “Overage” Spec Generally Satisfactory
    - Many Cancelled References Have Acceptable Supersessions
  - **Automated Validation Would Be Possible IF Document “Condition” (User Feedback) & Cancelled Reference Issue Were Resolved**
    - Technology Could Be Built Into ASSIST



# 1. Need vs. Age Approach (Condition Based Document Maintenance)

## ✓ Prognostics (Predictive Indicators) Required

### - *User Feedback Needs To Be Collected*

- Direct Feedback Provided to Preparing Activities
- User Feedback via Other Means
- Existing Discrepancy/Problem Reporting Mechanisms
- Contracting/Procuring Activity “Mods/Addendum”
- Technical Community (Gov’t/Industry) Known Issues

## ✓ ASSIST Module To Collect/Report on Feedback

### - *Short-Term:*

- Centralize Feedback Collection Preparing Activities Already Receive (DD 1426, emails, phone calls, etc) in Standardized Format
- User Feedback Entry in ASSIST to Comment on Specific Documents
- Investigate Spec-Related Issues in Existing DR Mechanisms
  - Marginal GIDEP utility (6 Spec-Related reports in 17 years)
  - Marginal PDREP utility (Limited “design-related” causes/info)

### - *Longer-Term:*

- Data Mine Contracting Office Mods/Addendums for Spec Deficiencies
  - Initially DLA and Navy procuring activities



## 2. Cancelled References “The Situation”

- Defense Standardization Council (DSC) “Directed Action” in 1990s on ~70+ Military Specs & Stds During Acquisition Reform
  - *Cancelled w/o Replacement - Cancelled w/ Replacement - Converted to HDBK*
    - MIL-STD-105 (Sampling) Referenced in 5,900+ DSP Documents
    - MIL-STD-109 (QA Terms) Referenced in 1,200+ DSP Documents
    - 8 Other Documents Are Each Referenced in 100+ DSP Documents
- Impact of Cancelled References in Navy Managed Documents
  - *2,137 References Cancelled ... Many With Superseding Documents*
  - *15 Cancelled References Impact 100-594 Active DSP Documents Each*
    - All but 1 Have Identified Superseding Documents
  - *40 Cancelled References impact 40-594 Active DSP Documents Each*
    - Most Have Identified Superseding Documents
  - *Some of the Superseding Documents have Subsequently Been Superseded*
- Prior DSC Decision --- No Overage Validation Via “Hard Supersession”
  - *Even if a Referenced Specification is Cancelled & Superseded by a Word-for Word Replacement, Specifications that Reference the Cancelled Document Cannot be “Validated” W/O Complete Review*



## 2. Resolving Cancelled References Options

- Options Considered (Among Many):
  - *Reinstate Cancelled References as “Inactive for New Design” w/o requirement for revision*
    - Focus on Cancellations where Navy was Preparing Activity
    - Focus on Cancellations Not Directed by DSC
    - Need to Address those Cancelled by DSC
  - *Address Cancelled References w/Greatest Impact Potential*
    - Focus on Cancellations where Navy was Preparing Activity
    - Focus on Cancellations Not Directed by DSC
    - Need to Address those Cancelled by DSC
  - *Re-Address Policy Precluding Validation via “Hard Supersession”*
    - Focus on Those With Single, Current Superseding Document
      - Mass Amendment
    - Then Address Those With Optional Superseding Documents
      - Obtain Tech Expert Recommendation
      - Mass Amendment
    - Defer Cancellations Replaced by Multiple Superseding Documents
- ➡ Combinations of Above
  - ✓ *Brief DSC & Obtain Approval If Necessary*



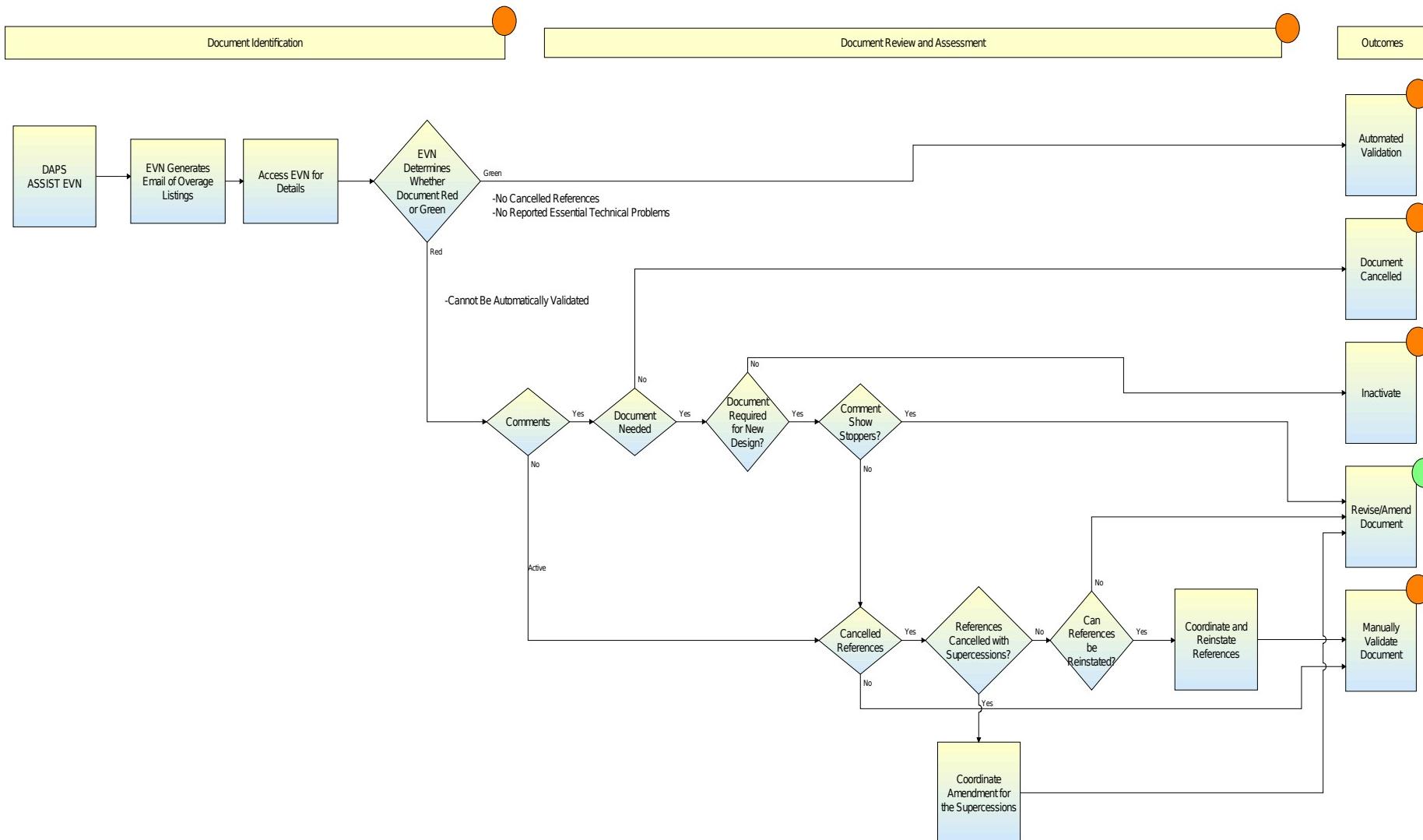
### 3. Automated DSP Document Validation

- Current Capability --- ASSIST Extended Validation Utility (EVN)
  - *Reports Specs/Stds With Document Dates 5-years or older*
    - Easy Validation of Documents Without Cancelled References
    - Specs w/Cancelled References Must Be “Corrected”
- ✓ Automated Validation Concept \*
  - *EVN Determines Whether Specification Contains A Cancelled Reference AND Whether Feedback Against The Specification*
    - If “Green”, ASSIST Automatically Validates The Document
    - If “Red”, Preparing Activity Takes Appropriate Action
  - Success Depends On:
    - Establishing Automated Feedback Mechanism (Improvement # 1)
    - Solving Cancelled Reference Situation (Improvement #2)

\* Value Stream Map on Next Slide



# Validation of Active DSP Specifications and Standards Future State VSM





# Overage Document Improvement Summary

- Problem ... Current Procedures Exceed Resource Capability
  - *Calendar Based vs. Condition Based*
    - User Feedback Not Available in Actionable Manner
  - *Policies on Cancelled References Causing Administrative “Overage”*
    - Supersessions to Cancellations Not Recognized for Validation
    - Cancelled References Often Still Used by Military & Civil Sector
- Improvement Proposals
  - ✓ *Establish Standardized Feedback Collection Repository in ASSIST*
    - DSPO Lead ... CONOPS by end of FY07
  - ✓ *Address/Readdress Cancelled References*
    - Obtain DSC Approval for “Hard Supersessions” of Cancelled References
    - Selectively Reactivate High-Impact Cancelled References
      - Obtain DSC Approval Where Required
  - ✓ *Automate Document Validation*
    - Manual Validation Only When Indicated by Feedback AND/OR Document Contains A Cancelled Not Resolved by Improvement Proposal #2